

Notice of Allowability

Application No.

09/987,038

Examiner

Tarifur R Chowdhury

Applicant(s)

KIM ET AL.

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to RCE filed on 03/02/04.
2. ☒ The allowed claim(s) is/are 1-28.
3. ☒ The drawings filed on 13 November 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 03/02/04 has been entered.

Allowable Subject Matter

2. Claims 1-28 are allowed.

3. The following is an examiner's statement of reasons for allowance:

4. As to claim 1, the prior arts of record do not anticipate or render obvious to one skilled in the art an array substrate for an in-plane switching liquid crystal display device comprising various elements as claimed, more specifically a plurality of pixel electrodes alternated with the common electrodes, each pixel electrode having at least one bent portion, wherein the at least one bent portion does not overlap the common line.

5. As to claim 9, the prior arts of record do not anticipate or render obvious to one skilled in the art an array substrate for an in-plane switching liquid crystal display device comprising various elements as claimed, more specifically a plurality of pixel electrodes alternated with the common electrodes, each pixel electrode having at least one bent portion wherein the overlapping common electrode is formed of a non-transparent material and wherein the common line and the common electrodes except for the

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overlapping common electrode are formed on the same layer as the pixel line and pixel electrodes.

6. As to claim 18, the prior arts of record do not anticipate or render obvious to one skilled in the art an array substrate for an in-plane switching liquid crystal display device comprising various elements as claimed, more specifically a plurality of common electrodes having at least one bent portion, at least one of the common electrodes covering the data line and extending to a neighboring pixel region.

7. As to claim 20, the prior arts of record do not anticipate or render obvious to one skilled in the art a method of fabricating an array substrate comprising various elements as claimed, more specifically forming the data line having a substantially zigzag shape and overlapping at least one common electrode, wherein a width of the at least one common electrode is wider than a width of the data line.

8. As to claim 21, the prior arts of record do not anticipate or render obvious to one skilled in the art a method of fabricating an array substrate comprising various elements as claimed, more specifically forming common and pixel electrodes having substantially zigzag shape, wherein the common line and the other common electrodes are formed on the same layer as the pixel electrodes and the pixel line.

9. As to claim 22, the prior arts of record do not anticipate or render obvious to one skilled in the art a method of fabricating an array substrate comprising various elements as claimed, more specifically forming common and pixel electrodes having substantially zigzag shape and being alternated with each other, and at least one overlapping common electrode in a layer above the data line and overlapping a portion of the data

line, wherein the common line and the common electrodes are formed on the same layer as the pixel electrodes.

10. As to claims 24 and 25, the prior arts of record do not anticipate or render obvious to one skilled in the art a substrate for a switching liquid crystal display device comprising various elements as claimed, more specifically a plurality of common electrodes having at least one bent portion, wherein at least one of the common electrodes is on a layer above the data line, wherein the at least one of the common electrodes overlaps/covers at least a portion of the data line and wherein the layer is one of a gate insulating layer and a passivation layer.

11. As to claim 26, the prior arts of record do not anticipate or render obvious to one skilled in the art a substrate for a switching liquid crystal display device comprising various elements as claimed, more specifically a plurality of common electrodes having at least one bent portion, wherein at least one of the common electrodes is on a layer above the data line, wherein the at least one of the common electrodes overlaps at least a portion of the data line and a common line connected to the common electrodes, wherein the common line overlaps the gate line.

12. USPAT 5,745,207 (Asada) and USPAT 6,466,289 (Lee) both disclose an in-plane switching type liquid crystal display device. Further, Asada shows that the data line, the pixel electrode and the common electrode have at least one bent portion. Lee also discloses that the common electrode overlaps with one or more data lines. However, Asada and Lee alone or in combination fail to teach or suggest the claimed

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array substrate for a liquid crystal display device or a method of forming such a substrate for the device.


Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tarifur R Chowdhury whose telephone number is (571) 272-2287. The examiner can normally be reached on M-Th (6:30-5:00) Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (571) 272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TRC
April 15, 2004


TARIFUR R. CHOWDHURY
PRIMARY EXAMINER